

# Notice of Allowability

Application No.

10/614,013

Examiner

Dang T Nguyen

Applicant(s)

KWON ET AL.

Art Unit

2824

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 27 October 2004.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 08 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.


**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Search history.

  
MICHAEL S. LEBENTRITT  
PRIMARY EXAMINER

***Response to Amendment***

1. This office action is in response to applicant's amendment received on 10/27/04. Claims 1, 2, 3, 5, 6, 9, 10, and 11 has been amended. Claims 1 - 11 are pending in this case. Claims 1, 5, 6, and 10 are independent claims.

***Allowable Subject Matter***

2. Claims 1 – 11 are allowed.

The following is an examiner's statement of reasons for allowance:

**With respect to claim 1**, in addition to other elements in the respective claims, the prior art of record fails to teach, suggest "a data converter which sequentially outputs the amplified N bits of data from each of the memory array blocks, beginning with the amplified N bits of data from a memory array block nearest to the RAS chain and subsequently outputting the amplified N bits of data from a memory array block farthest fro the RAS chain".

**With respect to claim 5**, in addition to other elements in the respective claims, the prior art of record fails to teach, suggest "the nearer a memory array block comes to the RAS chain, the greater the number of the memory sub-blocks of the memory array block".

**With respect to claim 6**, in addition to other elements in the respective claims, the prior art of record fails to teach, suggest "one repeater between every two adjacent memory array blocks, wherein the repeater delays a control signal output from the RAS chain for a predetermined time and outputs the delayed control signal".

**With respect to claim 10**, in addition to other elements in the respective claims, the prior art of record fails to teach, suggest "the nearer a memory array block is to the RAS chain, the smaller the number of the memory sub-blocks of the memory array block".

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chiang et al. (patent No. : 5,950,223) discloses a fast page mode achieves this increase in speed by maintaining the row address strobe RAS signal active while toggling the column address strobe CAS between high and low signal levels.

Ishikawa (Patent No.: 5,367,495) discloses a memory device includes a block decoder which designates mutually different cell array blocks synchronized with a row selection signal RAS and a column selection signal CAS so that it is possible at the time of input of the column selection signal CAS to execute write/read operation in page mode that extends over the cell array.

Seo et al. (Patent no.: US 6,959,936) discloses a row active command and a read command are carried out through a combination of the write enable signal /WE, the chip select signal /CS, the column address strobe signal /CAS and the row address strobe signal /RAS.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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**Contact Information**


5. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or [EBC@uspto.gov](mailto:EBC@uspto.gov).

Dang Nguyen 12/02/2004

  
MICHAEL S. LEBENTRITT  
PRIMARY EXAMINER